

**Listing of Claims:**

1. (Currently Amended) A transmission state indicating method ~~comprising: in accordance with for~~ a predetermined transmission system, in which high capacity data is divided into a plurality of low capacity virtual containers and transmitted via a plurality of channels which configure a communication network based on clocks at the respective channels, the method comprising:

10 acquiring a multiplexed frame in which mapping, accompanying delay absorption processings corresponding to transmission states at the respective channels, has been carried out based on a reference clock with respect to virtual containers at the respective channels included in a plurality of frames including the plurality of low capacity virtual containers;

15 successively detecting factors at the respective channels which are respectively included in the plurality of frames included in the multiplexed frame, and which are to be objects for delay absorption processings corresponding to the transmission states at the respective channels, as a plurality of pointer values for respectively evaluating the transmission 20 states at said plurality of channels which configure the communication network;

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successively correcting the plurality of pointer values based on variations in phases at the respective channels which are detected from phase differences between the clocks at the respective channels and the reference clock; and

indicating the plurality of pointer values successively corrected, at the same time, corresponding to the plurality of channels.

2. (Original) The transmission state indicating method according to claim 1, further comprising:

5 storing said plurality of pointer values in association with information for indicating said plurality of pointer values at

the same time in accordance with said plurality of channels; and

reading out the plurality of pointer values stored in association with the information for indicating the plurality of pointer values corresponding to the plurality of channels, at the same time.

3. (Original) The transmission state indicating method according to claim 1, further comprising:

5 carrying out processing for indicating said plurality of pointer values by relative values with respect to a pointer value of a reference channel to be a reference among said plurality of

channels when said plurality of pointer values are indicated at the same time corresponding to the plurality of channels.

4. (Original) The transmission state indicating method according to claim 1, wherein, when the predetermined transmission system is an SDH (Synchronous Digital Hierarchy) system, the plurality of pointer values include, as factors of 5 the respective channels to be objects for the delay absorption processings, values of AU (Administrative Unit) pointers included in H1 bytes and H2 bytes which have been defined to show head portions of the virtual containers in case where the low capacity containers are contained in a payload, at the 4<sup>th</sup> row of an SOH 10 (Section Overhead) frame in which the plurality of frames are frames of an STM (Synchronous transfer mode) and which is added to the payload of the frame of the STM.

5. (Original) The transmission state indicating method according to claim 1, wherein, when the predetermined transmission system is an SDH (Synchronous Digital Hierarchy) system, the plurality of pointer values include, as factors of 5 the respective channels to be objects for the delay absorption processings, a value of H4 byte which has been defined at the 6<sup>th</sup> row of a POH (Pass Overhead) added to head portions of the respective virtual containers in case where said plurality of

frames are frames of an STM (Synchronous transfer mode) and the  
10 virtual containers included in the frames of the STM are a VC-3  
format or a VC-4 format.

6. (Original) The transmission state indicating method  
according to claim 1, wherein, when the predetermined  
transmission system is an SDH (Synchronous Digital Hierarchy)  
system, the plurality of pointer values include, as factors of  
5 the respective channels to be the objects for the delay  
absorption processings, values of AU (Administrative Unit)  
pointers included in H1 bytes and H2 bytes which have been  
defined to show head portions of the virtual containers in case  
where the low capacity containers are contained in a payload, at  
10 the 4<sup>th</sup> row of an SOH (Section Overhead) frame in which said  
plurality of frames are frames of an STM (Synchronous transfer  
mode) and which is added to the payload of the frame of the STM,  
and a value of H4 byte which has been defined at the 6<sup>th</sup> row of a  
POH (Pass Overhead) added to the head portions of the respective  
15 virtual containers in case where said plurality of frames are  
frames of the STM (Synchronous transfer mode) and the virtual  
containers included in the frames of the STM are a VC-3 format or  
a VC-4 format.

7. (Original) The transmission state indicating method according to claim 1, further comprising:

5 converting the multiplexed frame on which mapping has been carried out into a concatenation mapping frame according to the rules of concatenation mapping; and

detecting a plurality of index values included in the concatenation mapping frame converted according to rules of the concatenation mapping in place of the multiplexed frame on which mapping has been carried out.

8. (Currently Amended) A transmission state indicating apparatus ~~comprising: a multiplexed frame acquiring unit, in accordance with for~~ a predetermined transmission system, in which high capacity data is divided into a plurality of low capacity virtual containers and transmitted via a plurality of channels which configure a communication network based on clocks at the respective channels, the apparatus comprising:

10 a multiplexed frame acquiring unit which acquires a multiplexed frame in which mapping, accompanying delay absorption processings corresponding to transmission states at the respective channels, has been carried out based on a reference clock with respect to the virtual containers at the respective channels included in a plurality of frames including said plurality of low capacity virtual containers;

15           a pointer value detecting unit which successively detects factors at the respective channels which are respectively included in the plurality of channels included in the multiplexed frame acquired by the multiplexed frame acquiring unit, and which are to be objects for delay absorption processings corresponding to the transmission states at the respective channels, as a plurality of pointer values for respectively evaluating the transmission states at the plurality of channels which configure the communication network, and which successively corrects the plurality of pointer values based on variations in phases at the 20 respective channels to be detected from phase differences between the clocks at the respective channels and the reference clock; and

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          a display unit which indicates the plurality of pointer values successively detected and corrected by the pointer value detecting unit, at the same time, corresponding to the plurality of channels.

9. (Original) The transmission state indicating apparatus according to claim 8, further comprising:

          a storage unit which stores said plurality of pointer values successively detected and corrected by the pointer value detecting unit in association with information for indicating the 5

plurality of pointer values at the same time in accordance with the plurality of channels; and

10 a control unit which reads said plurality of pointer values stored in association with the information for indicating said plurality of pointer values corresponding to the plurality of channels at the storage unit, at the same time.

10. (Original) The transmission state indicating apparatus according to claim 8, further comprising:

5 a control unit which carries out processing for indicating the plurality of pointer values successively detected and corrected by the pointer value detecting unit, by relative values with respect to a pointer value of a reference channel to be a reference among the plurality of channels in the case where said plurality of pointer values are indicated at the same time corresponding to the said plurality of channels.

11. (Original) The transmission state indicating apparatus according to claim 8, wherein, when the predetermined transmission system is an SDH (Synchronous Digital Hierarchy) system, the plurality of pointer values include, as factors of 5 the respective channels to be objects for the delay absorption processings, values of AU (Administrative Unit) pointers included in H1 bytes and H2 bytes which have been defined to show head

portions of the virtual containers in case where the low capacity containers are contained in a payload, at the 4<sup>th</sup> row of an SOH  
10 (Section Overhead) frame in which the plurality of frames are frames of an STM (Synchronous transfer mode) and are added to payloads of the frames of the STM.

12. (Original) The transmission state indicating apparatus according to claim 8, wherein, when the predetermined transmission system is an SDH (Synchronous Digital Hierarchy) system, the plurality of pointer values include, as factors of 5 the respective channels to be objects for the delay absorption processings, a value of H4 byte which has been defined at the 6<sup>th</sup> row of a POH (Pass Overhead) added to head portions of the respective virtual containers in case where the plurality of frames are frames of an STM (Synchronous transfer mode) and the 10 virtual containers included in the frames of the STM system are a VC-3 format or a VC-4 format.

13. (Original) The transmission state indicating apparatus according to claim 8, wherein, when the predetermined transmission system is an SDH (Synchronous Digital Hierarchy) system, the plurality of pointer values include, as factors of 5 the respective channels to be objects for the delay absorption processings, values of AU (Administrative Unit) pointers included

in H1 bytes and H2 bytes which have been defined to show head portions of the virtual containers in case where the low capacity containers are contained in a payload, at the 4<sup>th</sup> row of an SOH (Section Overhead) frame in which said plurality of frames are frames of an STM (Synchronous transfer mode) and are added to the payload of the frame of the STM, and a value of H4 byte which has been defined at the 6<sup>th</sup> row of a POH (Pass Overhead) added to the head portions of the respective virtual containers when the plurality of frames are frames of the STM (Synchronous transfer mode) and the virtual containers included in the frames of the STM are a VC-3 format or a VC-4 format.

14. (Original) The transmission state indicating apparatus according to claim 8, further comprising:

5 a frame converting unit which converts the multiplexed frame acquired by the multiplexed frame acquiring unit into a concatenation mapping frame according to the rules of concatenation mapping; and

10 an index value detecting unit which detects a plurality of index values included in the concatenation mapping frame converted according to rules of the concatenation mapping by the frame converting unit.

15. (Currently Amended) A transmission state indicating apparatus ~~comprising: a plurality of clock reproducing units, in accordance with for~~ a predetermined transmission system, in which high capacity data is divided into a plurality of low capacity 5 virtual containers and transmitted via a plurality of channels which configure a communication network based on clocks at the respective channels, the apparatus comprising:

a plurality of clock reproducing units which reproduce clocks of the respective channels from reception signals of a 10 plurality of frames including the plurality of low capacity virtual containers;

a plurality of frame receiving units which receive the plurality of frames including the plurality of low capacity virtual containers in which the high capacity data is divided 15 into the plurality of low capacity virtual containers and transmitted via the plurality of channels which configure the communication network, corresponding to the plurality of the respective channels, and detect the virtual containers at the respective channels based on the clocks of the respective 20 channels reproduced by the plurality of clock reproducing units;

a reference clock generating unit which generates a reference clock;

a frame assembling unit which carries out mapping with respect to the virtual containers at the respective channels

25 included in the plurality of the frames received corresponding to  
the plurality of channels by the plurality of frame receiving  
units, based on the reference clock from the reference clock  
generating unit, accompanying delay absorption processings  
corresponding to the transmission states of the respective  
30 channels, so as to ~~be~~ produce a multiplexed frame;

          a pointer value detecting unit which successively detects  
factors at the respective channels which are respectively  
included in the plurality of frames included in the multiplexed  
frame on which mapping has been carried out by the frame  
35 assembling unit, and which are to be objects for delay absorption  
processings corresponding to the transmission states at the  
respective channels, as a plurality of pointer values for  
respectively evaluating transmission states at the plurality of  
channels which configure the communication network, and  
40 successively corrects the plurality of pointer values based on  
variations in phases at the respective channels to be detected  
from phase differences between the clocks at the respective  
channels reproduced by the plurality of clock reproducing units  
and the reference clock generated by the reference clock  
45 generating unit;

          an information storage unit which stores the plurality of  
pointer values successively detected and corrected by the pointer  
value detecting unit in association with information for

50 indicating the plurality of pointer values in accordance with the plurality of channels; and

a display unit which indicates, at the same time, the plurality of pointer values for respectively evaluating the transmission states of the plurality of channels which configure the communication network, ~~at the same time~~ corresponding to the 55 plurality of channels, based on the plurality of pointer values and the information for indicating the plurality of pointer values corresponding to the plurality of channels which have been stored in stored in association with one another in the information storage unit.

16. (Original) The transmission state indicating apparatus according to claim 15, further comprising:

5 a control unit which carries out processing for indicating the plurality of pointer values by relative values with respect to a pointer value of a reference channel to be a reference among the plurality of channels on the display unit.

17. (Original) The transmission state indicating apparatus according to claim 15, wherein, when the predetermined transmission system is an SDH (Synchronous Digital Hierarchy) system, the plurality of pointer values include, as factors of 5 the respective channels to be objects for the delay absorption

processings, values of AU (Administrative Unit) pointers included in H1 bytes and H2 bytes which have been defined to show head portions of the virtual containers in case where the low capacity containers are contained in a payload, at the 4<sup>th</sup> row of an SOH (Section Overhead) frame in which the plurality of frames are frames of an STM (Synchronous transfer mode) and are added to the payload of the frame of the STM.

18. (Original) The transmission state indicating apparatus according to claim 15, wherein, when the predetermined transmission system is an SDH (Synchronous Digital Hierarchy) system, the plurality of pointer values include, as factors of 5 the respective channels to be objects for the delay absorption processings, a value of H4 byte which has been defined at the 6<sup>th</sup> row of a POH (Pass Overhead) added to head portions of the respective virtual containers in case where the plurality of frames are frames of an STM (Synchronous transfer mode) and the 10 virtual containers included in the frames of the STM are a VC-3 format or a VC-4 format.

19. (Original) The transmission state indicating apparatus according to claim 15, wherein, when the predetermined transmission system is an SDH (Synchronous Digital Hierarchy) system, the plurality of pointer values include, as factors of

5 the respective channels to be objects for the delay absorption  
processings, values of AU (Administrative Unit) pointers included  
in H1 bytes and H2 bytes which have been defined to show head  
portions of the virtual containers in case where the low capacity  
containers are contained in a payload, at the 4<sup>th</sup> row of an SOH  
10 (Section Overhead) frame in which the plurality of frames are  
frames of an STM (Synchronous transfer mode) and are added to the  
payload of the frame of the STM, and a value of H4 byte which has  
been defined at the 6<sup>th</sup> row of a POH (Pass Overhead) added to the  
head portions of the respective virtual containers in case where  
15 said plurality of frames are frames of the STM (Synchronous  
transfer mode) and the virtual containers included in the frames  
of the STM are a VC-3 format or a VC-4 format.

20. (Original) The transmission state indicating apparatus  
according to claim 15, further comprising:

a frame converting unit which converts the multiplexed frame  
on which mapping has been carried out by the frame assembling  
5 unit into a concatenation mapping frame according to rules of  
concatenation mapping; and

an index value detecting unit which detects a plurality of  
index values included in the concatenation mapping frame  
converted according to the rules of the concatenation mapping by  
10 the frame converting unit.